

# Work Order ID 81220

**\*81220\***

Page 1

March-12-12 11:19:21 AM

Item ID: D2574

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Saddle, Aft In 205

Stop **\*NS2\***

Start Date: 12/03/2012 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 30/03/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/03/12 Tooling:

Date:

Run Start **\*NR1\***

QC:

Date: SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2574

Rev E

100

0.00

**\*100\***

HAAS CNC VERTICAL MACHINING #1

B.A. 12/04/03  
/BG

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

Program Batch No. 81220 Double check by: MLJ 1-Machine Step  
No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine  
Step No 2 per Folio FA051 and inspect per attached Dimension Sheets3-  
Machine Step No 3 per Folio FA051 and insp

12

0

110

0.00

**\*110\***

CONVENTIONAL MILLING MACHINE

B.A. 12/04/04  
/BG

Mill Conv

Memo

0.00

Conventional Milling Machine

Machine keyway as per dwg D2573 & D2574

12

0

120

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*120\***

B.A. 12/04/03  
/BG

QC

Memo

0.00

Quality Control

12

0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 81220

**\*81220\***

Page 2

March-12-12 11:19:21 AM

Item ID: D2574

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Saddle, Aft In 205

Stop **\*NS2\***

Start Date: 12/03/2012 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 30/03/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

QC8- Inspect parts - second check

0.00

**\*130\***

QC

Memo

0.00

Quality Control

140

Chemical Conversion Coat per QSI005 4.1

0.00

**\*140\***

HandFinish

Memo

0.00

Hand Finishing

150

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

**\*150\***

Powdercoat

Memo

0.00

Powder Coating

START TIME:

FINISH TIME:

OVEN TEMPERATURE:

1:40

320 °F

12xØ m/l 12/04/10

12xØ m/l 12/04/12

M120222

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 81220**

March-12-12 11:19:21 AM

**\*81220\***

Page 3

Item ID: D2574

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Item Name: Saddle, Aft In 205

Stop **\*NS2\***

Start Date: 12/03/2012 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 30/03/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC3- Inspect Part Finish

0.00

**\*160\***

QC

Memo

0.00

Quality Control

counted 12x of M alasker

170

Identify as per dwg & Stock Location: **423**

0.00

**\*170\***

Packaging

Memo

0.00

Packaging

(12x) 12/04/13

180

QC21- Final Inspection - Work Order Release

0.00

**\*180\***

QC

Memo

0.00

Quality Control

MLJ 12/04/13

MLJ 12/04/13  
(12)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March-12-12 11:19:26 AM

Page 1

Work Order ID: 81220

**\*81220\***

Parent Item: D2574

**\*D2574\***

Parent Item Name: Saddle, Aft In 205

Start Date: 12/03/2012

Required Date: 30/03/2012

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev: I As Per RevE 06-01-27 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-005		Manufactured	No			110	Each	60.0000	1	12			
<b>*D6101-005*</b>													
Saddle Billet													

79874 x 9

\*\*

4.1 12-04-02

Location	Loc Qty	Loc Code
MAT041	28	
71721	1	
<u>76838</u>	7	
79588	20	
MAT044	28	
79874	28	
MAT045	1	
<u>74507</u>	1	
MAT046	3	
66966	3	

x2
x 1

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 81220
<b>Description:</b> Saddle, Aft Inboard		<b>Part Number:</b> D2574
<b>Inspection Dwg:</b> D2574 Rev. E		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443		0.440	0.440	0.440	0.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.749	1.750	1.750		
E	7.990	8.010		8.000	8.000	8.000	8.000		
F	0.490	0.510		0.499	0.5025	0.500	0.500		
G	0.257	0.262		0.258	0.258	0.258	0.258		
H	0.375	0.380		0.376	0.376	0.376	0.376		
I	0.490	0.510		0.500	0.4985	0.500	0.500		
J	1.174	1.184		1.179	1.178	1.179	1.179		
K	0.558	0.578		0.568	0.567	0.568	0.568		
L	1.174	1.184		1.179	1.178	1.179	1.179		
M	1.365	1.375		1.370	1.371	1.370	1.370		
N	2.495	2.505		2.500	2.4995	2.500	2.500		
O	4.119	4.129		4.124	4.122	4.124	4.124		
P	0.115	0.135		0.128	0.128	0.128	0.128		
Q	0.115	0.135		0.135	0.135	0.135	0.135		
R	0.240	0.260		0.253	0.251	0.251	0.251		
S	0.115	0.135		0.128	0.128	0.128	0.128		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		0.240	0.241	0.241	0.241		
W	0.115	0.135		0.128	0.131	0.131	0.131		
X	0.307	0.312		0.310	0.310	0.310	0.310		
Y	0.760	0.765		0.762	0.762	0.762	0.762		
Z	0.352	0.372		0.362	0.3635	0.363	0.363		
AA	0.470	0.530		0.500	0.500	0.500	0.500		
AB	0.615	0.635		0.621	0.620	0.620	0.620		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.242	0.245	0.245	0.245		
AE	1.500	1.520		1.513	1.512	1.512	1.512		
AF	0.115	0.135		0.135	0.135	0.135	0.135		
AG	0.240	0.280		0.270	0.270	0.270	0.270		
AH	0.240	0.260		0.251	0.250	0.250	0.250		
AI	2.000	2.020		2.0018	2.0025	2.003	2.003		
AJ	0.023	0.043		0.033	0.032	0.032	0.032		
Accept/Reject									

Measured by: B.A.
Date: 12/04/03

Audited by: RF
Date: 12.4.9

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	81220
<b>Description:</b> Saddle, Aft Inboard		<b>Part Number:</b>	D2574
<b>Inspection Dwg:</b> D2574 Rev. E		<b>Page 1 of 1</b>	

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				15	16	17	18		
A	0.438	0.443		.439	.439	.439	.439		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.001	8.001	8.001	8.001		
F	0.490	0.510		.508	.503	.503	.501		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.375	.375	.375	.375		
I	0.490	0.510		.501	.502	.502	.502		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.568	.568	.568	.568		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.127	.127	.127	.127		
Q	0.115	0.135		.130	.130	.130	.130		
R	0.240	0.260		.251	.252	.252	.252		
S	0.115	0.135		.130	.126	.126	.126		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.232	3.232	3.232	3.232		
V	0.230	0.250		.244	.244	.244	.244		
W	0.115	0.135		.131	.133	.133	.133		
X	0.307	0.312		.310	.310	.310	.310		
Y	0.760	0.765		.762	.762	.762	.762		
Z	0.352	0.372		.364	.364	.364	.364		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.627	.627	.627	.627		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.252	.252	.252	.252		
AE	1.500	1.520		1.507	1.507	1.507	1.507		
AF	0.115	0.135		.135	.135	.135	.135		
AG	0.240	0.280		.270	.270	.270	.270		
AH	0.240	0.260		.252	.252	.252	.252		
AI	2.000	2.020		2.005	2.002	2.002	2.002		
AJ	0.023	0.043		.032	.032	.032	.032		
Accept/Reject									

Measured by:	BSG
Date:	12/04/06

Audited by:	24
Date:	12.4.9

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	81220
<b>Description:</b> Saddle, Aft Inboard	<b>Part Number:</b>	D2574
<b>Inspection Dwg:</b> D2574 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#9	#10	#11	#12	By	Date
A	0.438	0.443		.438	.438	.438	.438		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.001	8.001	8.001	8.001		
F	0.490	0.510		.500	.500	.500	.498		
G	0.257	0.262		.257	.257	.257	.257		
H	0.375	0.380		.375	.375	.375	.375		
I	0.490	0.510		.500	.500	.501	.501		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.568	.568	.568	.568		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.126	.128	.128	.127		
Q	0.115	0.135		.130	.130	.130	.130		
R	0.240	0.260		.251	.253	.252	.252		
S	0.115	0.135		.127	.128	.128	.128		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.247	.241	.242	.247		
W	0.115	0.135		.135	.135	.135	.135		
X	0.307	0.312		.310	.310	.310	.310		
Y	0.760	0.765		.762	.762	.762	.762		
Z	0.352	0.372		.362	.362	.368	.368		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.627	.628	.627	.627		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.252	.252	.252	.252		
AE	1.500	1.520		1.510	1.510	1.510	1.510		
AF	0.115	0.135		.135	.135	.135	.135		
AG	0.240	0.280		.270	.270	.270	.270		
AH	0.240	0.260		.251	.251	.251	.251		
AI	2.000	2.020		2.000	2.000				
AJ	0.023	0.043		.032	.032	.032	.032		
Accept/Reject									

Measured by:	RL
Date:	12/04/07

Audited by:	RF
Date:	12.4.7

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

RELEASED

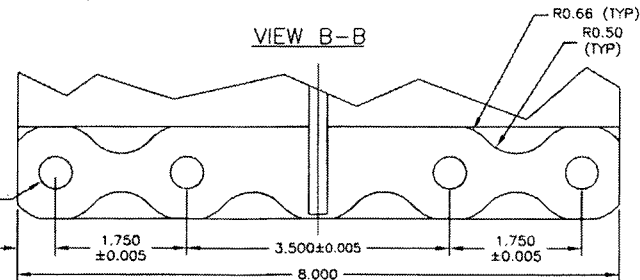
05.07.13

NOTES

MATERIAL: 7075-T7351 (00-A-250/12)  
(REF DART SPEC. D6102-003)  
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER  
DART QSI 005 4.3  
BREAK ALL SHARP EDGES 0.010 TO 0.020  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 1 ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 2 CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)
- 3 CHAMFER 0.063 x 45° ALL AROUND
- 4 CHAMFER 0.033 x 45° (SEE DETAIL C)

VIEW B-B

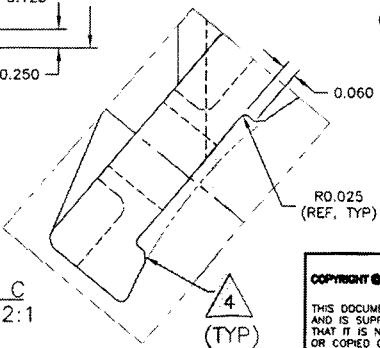


E	05.07.13	ADD CHAMFER ON RIDGE NOTE 4
D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCORP. DEO 9123/9079/9102 ADD DIMENSIONS PER TSR A1177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE

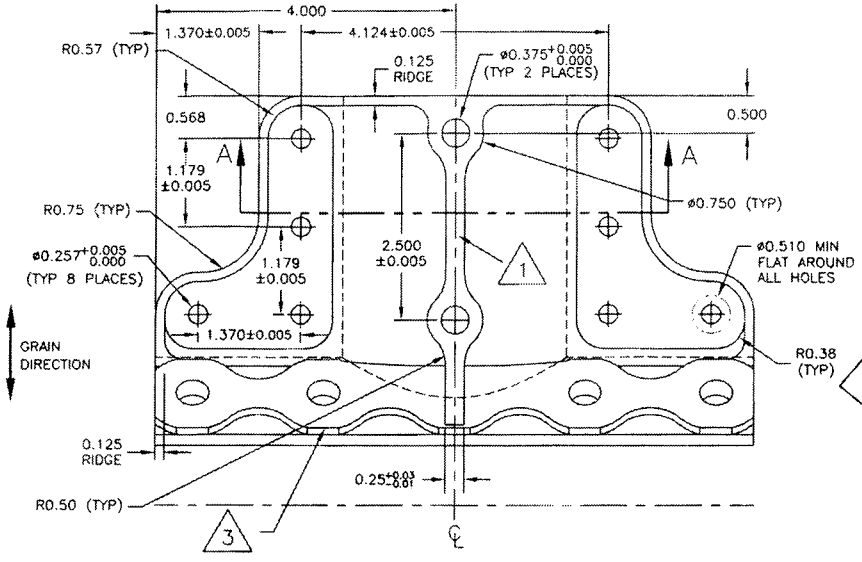
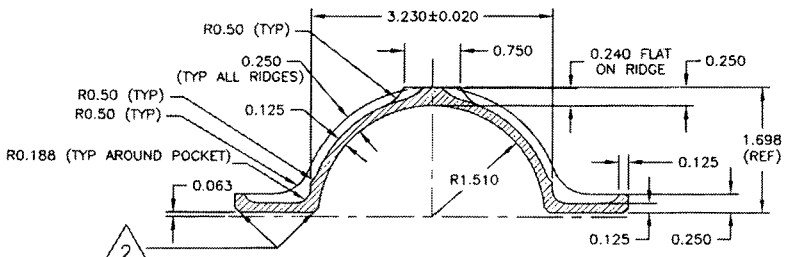
DESIGN	DS	DRAWN BY	PH	<b>DART</b>	DART AEROSPACE LTD. HANESBURY, ONTARIO, CANADA
CHECKED	#	APPROVED	#	DRAWING NO.	D2574
DATE	05.07.13	TITLE	INNER AFT SADDLE		

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DETAIL C  
SCALE 2:1



SECTION A-A



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 81720 MCTJ  
12/03/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries